

# **DART SERVICE INSTRUCTION**

TO AMEND INSTALLATION INSTRUCTIONS D206-642 REV. L  
AND INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D206-642 REV. 1  
REF. FAA STC: SA00475SE  
REF. CANADIAN STC: SH98-4  
REF. EASA STC: EASA.IM.R.S.01320

The D206-642-113/-114/-215/-216/-217/-218 Skidtube Installations and D206-642-149/-249 Run-on Wearplate Kits are added to installation instructions D206-642 Rev. L.

## **1.0 D206-642-113/-114 SKIDTUBE INSTALLATIONS**

The D206-642-113/-114 Skidtube Installations are for installation on Bell 206 A/B aircraft on low (std) gear. They are similar to Dart's D206-642-111/-112 Skidtubes, however the wearshoe inserts have been removed. The -149 Run-on Landing Wearplate Kit has been included, which uses a thru-bolt design.

The -113/-114 Skidtubes should be installed and maintained per the -111/-112 Skidtubes in D206-642 Rev. L and ICA-D206-642 Rev. 1. The -113/-114 Skidtubes are replacements for the same Skidtubes as the -111/-112 Skidtubes listed in Section 1.0 of D206-642 Rev. L.

## **2.0 D206-642-215/-216 SKIDTUBE INSTALLATIONS**

The D206-642-215/-216 Skidtube Installations are for installation on Bell 206 A/B aircraft on high gear with saddle to crosstube non thru bolt design. They are similar to Dart's D206-642-211/-212 Skidtubes, however the wearshoe inserts have been removed. The -249 Run-on Landing Wearplate Kit has been included, which uses a thru-bolt design.

The -215/-216 Skidtubes should be installed and maintained per the -211/-212 Skidtubes in D206-642 Rev. L and ICA-D206-642 Rev. 1. The -215/-216 Skidtubes are replacements for the same Skidtubes as the -211/-212 Skidtubes listed in Section 1.0 of D206-642 Rev. L.

## **3.0 D206-642-217/-218 SKIDTUBE INSTALLATIONS, THRU BOLT**

The D206-642-217/-218 Skidtube Installations are for installation on Bell 206 A/B aircraft on high gear with saddle to crosstube thru bolt design. They are similar to Dart's D206-642-213/-214 Skidtubes, however the wearshoe inserts have been removed. The -249 Run-on Landing Wearplate Kit has been included, which uses a thru-bolt design.

The -217/-218 Skidtubes should be installed and maintained per the -213/-214 Skidtubes in D206-642 Rev. L and ICA-D206-642 Rev. 1. The -217/-218 Skidtubes are replacements for the same Skidtubes as the -213/-214 Skidtubes listed in Section 1.0 of D206-642 Rev. L.

## **4.0 D206-642-149/-249 RUN-ON LANDING WEARPLATE KIT**

The D206-642-149 Run-on Landing Wearplate Kits are heavy-duty run-on wearplates designed for the -111/-112/-113/-114 Skidtubes. The D206-642-249 Run-on Landing Wearplate Kits are heavy-duty run-on wearplates designed for the -211/-213/-214/-215/-216/-217/-218 Skidtubes. The wearplates feature large tungsten carbide weld beads and are installed using a thru-bolt design to eliminate the chance of the skidtube wearshoe inserts being damaged.

Maintain the Wearplate Assemblies per ICA-D206-642 Rev. 1. The D3807-1/-3/-5/-7 Gaskets are bonded to the D3805-041/-043/-045/-047 Wearplate Assemblies. If the gasket requires replacing, install on wearplate with a layer of contact cement to prevent the gasket from slipping.

A	NEW ISSUE	MB	08.11.28
REV.	DESCRIPTION		BY DATE
DESIGN	92	<b>DART AEROSPACE USA, INC</b>	
DRAWN	92	PORT HADLOCK, WA	
CHECKED	92	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9420	SHEET 1 OF 6
APPROVED	149	TITLE	SCALE
DE APPR.	149	SKIDTUBE INSTALLATION	NTS
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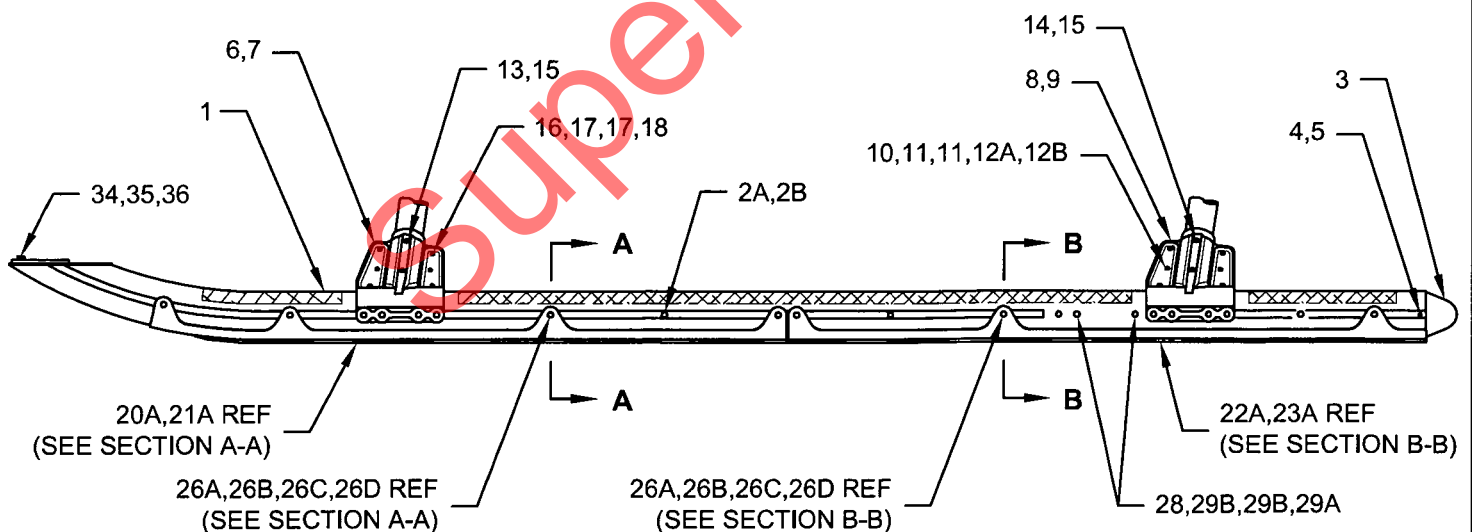
## 5.0 DSI 9420-011/-013 RUN-ON LANDING WEARPLATE UPGRADE KITS

Customers who want to upgrade their D206-642-111/-112 Skidtube with the new D206-642-149 Run-on Wearplate Kit must procure DSI 9420-011 Upgrade Kit. Likewise, customers who want to upgrade their D206-642-211/-212/-213/-214 Skidtubes with the new D206-642-249 Run-on Wearplate Kit must procure DSI 9420-013 Upgrade Kit. See Sections 9.0 and 10.0.

## 6.0 WEIGHT AND BALANCE

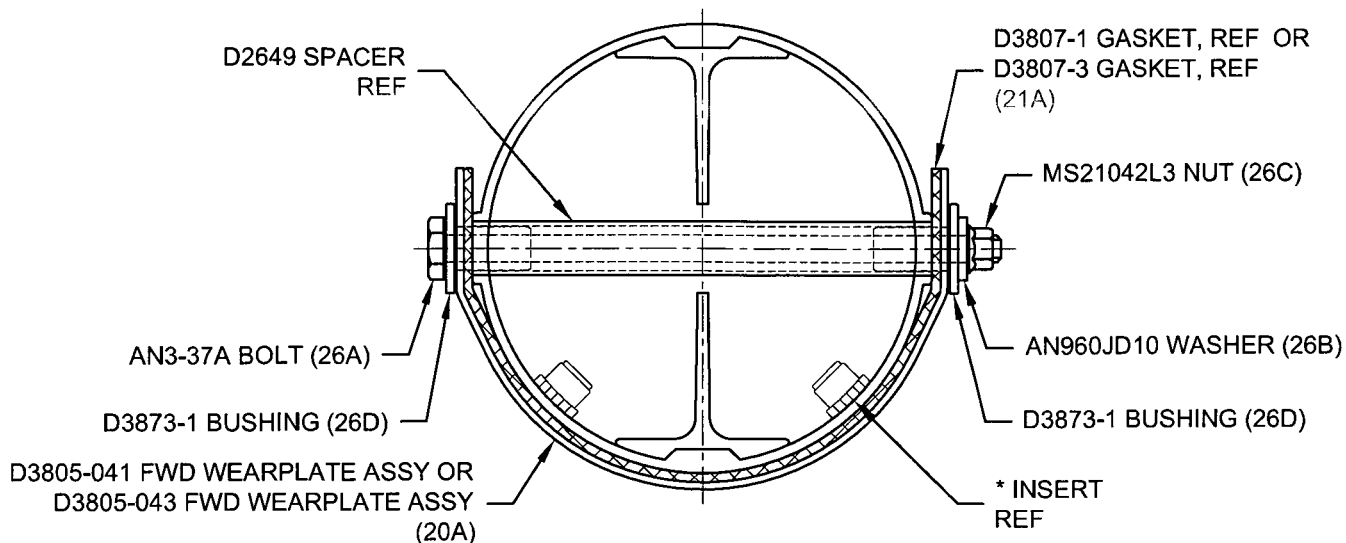
The following weight and balance information is for Dart D206-642-113/-114/-215/-216/-217/-218 skidtube and saddle installations only. The weight and balance of the skidtube and saddle installations that are being removed from the aircraft are the responsibility of the installer.

INSTALLATION	WEIGHT	LONGITUDINAL		LATERAL	
		ARM	MOMENT	ARM	MOMENT
D206-642-113	23.2 lb	96.3 in	2234 in lb	-36.8 in	-854 in lb
206A/B LOW, LH	10.5 kg	2.44 m	25.6 m kg	-0.93 m	-9.8 m kg
D206-642-114	23.2 lb	96.3 in	2234 in lb	36.8 in	854 in lb
206A/B LOW, RH	10.5 kg	2.44 m	25.6 m kg	0.93 m	9.8 m kg
D206-642-215	25.0 lb	93.8 in	2345 in lb	-37.3 in	-933 in lb
206A/B HIGH, LH	11.3 kg	2.38 m	26.9 m kg	-0.95 m	-10.7 m kg
D206-642-216	25.0 lb	93.8 in	2345 in lb	37.3 in	933 in lb
206A/B HIGH, RH	11.3 kg	2.38 m	26.9 m kg	0.95 m	10.7 m kg
D206-642-217	25.0 lb	93.8 in	2345 in lb	-37.3 in	-933 in lb
206A/B HIGH, LH	11.3 kg	2.38 m	26.9 m kg	-0.95 m	-10.7 m kg
D206-642-218	25.0 lb	93.8 in	2345 in lb	37.3 in	933 in lb
206A/B HIGH, RH	11.3 kg	2.38 m	26.9 m kg	0.95 m	10.7 m kg
*D206-642-149	7.8 lb	96.3 in	751 in lb	+/- 36.8 in	+/- 287 in lb
RUN-ON WEARPLATE KIT	3.5 kg	2.44 m	8.5 m kg	+/- 0.93 m	+/- 3.3 m kg
*D206-642-249	8.6 lb	93.8 in	807 in lb	+/- 37.3 in	+/- 321 in lb
RUN-ON WEARPLATE KIT	3.9 kg	2.38 m	9.3 m kg	+/- 0.95 m	+/- 3.7 m kg

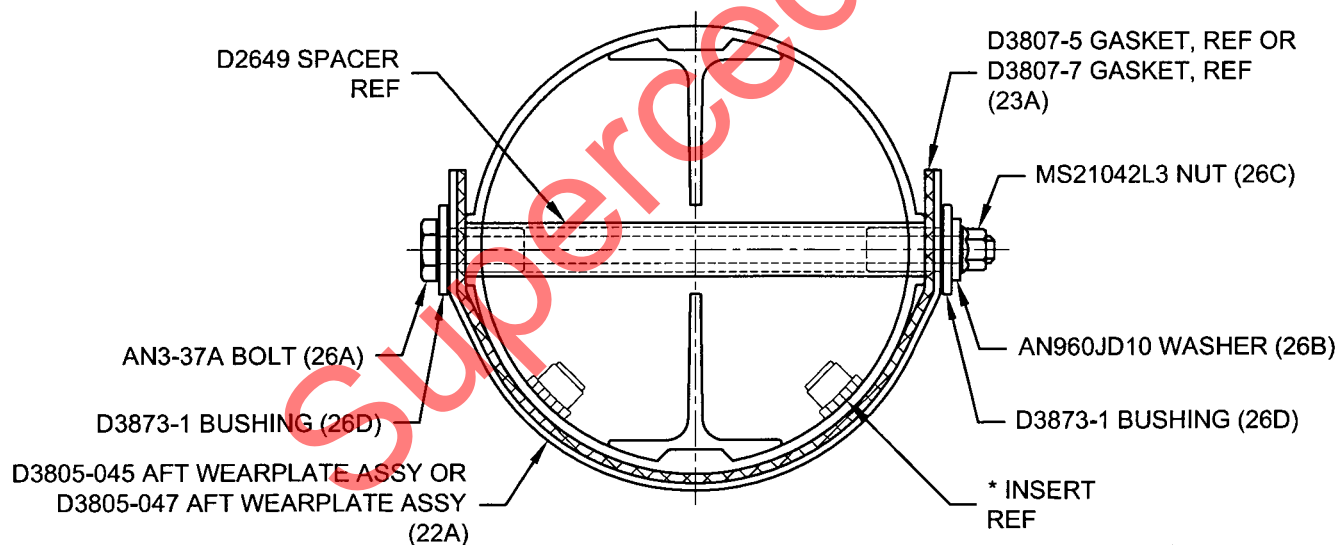


**FIGURE 1: D206-642-113/-114/-215/-216/-217/-218 SKIDTUBE INSTALLATIONS**

DESIGN	97	<b>DART AEROSPACE USA, INC</b> PORT HADLOCK, WA	
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MFG. APPR.	N/A	DSI 9420	SHEET 2 OF 6
APPROVED	140	TITLE	SCALE
DE APPR.	140	SKIDTUBE INSTALLATION	NTS
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**SECTION A-A: FWD WEARPLATE ASSY INSTALLATION**  
SKIDTUBE SECTION, NOT TO SCALE



**SECTION B-B: AFT WEARPLATE INSTALLATION**  
SKIDTUBE SECTION, NOT TO SCALE

\*: ON D206-642-111/-112/-211/-212/-213/-214 SKIDTUBES ONLY. PLUG WITH SIKAFLEX -241/-291 OR PROSEAL 890 SEALANT PRIOR TO INSTALLING DSI 9420-011/013 UPGRADE KIT.

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## 7.0 206A/B LOW GEAR SKIDTUBES PARTS LIST

Item	Qty -113	Qty -114	Qty -147	Qty -149	Part Number	Description
	X				D206-642-113	SKIDTUBE INSTALLATION, LH
		X			D206-642-114	SKIDTUBE INSTALLATION, RH
	1	1	X		D206-642-147	SKIDTUBE
			1	X	D206-642-149	RUN-ON LANDING WEARPLATE KIT
	1	1			D206-651-041	* 206 GHW ADAPTER (2)
1			1		D3804-041	SKIDTUBE ASSEMBLY
2A			6		D2651-1	* PLUG (1)
2B			6		D2651-3	* O-RING (1)
3			1		D2646	* AFT CAP (1)
4			2		MS27039-1-08	* SCREW (1)
5			2		AN960JD10L	* WASHER (1)
6	1				D2661-1	SADDLE, FWD OUT, LH
6		1			D2661-2	SADDLE, FWD OUT, RH
7	1				D2662-1	SADDLE, FWD IN, LH
7		1			D2662-2	SADDLE, FWD IN, RH
8	1				D2661-1	SADDLE, AFT OUT, LH
8		1			D2661-2	SADDLE, AFT OUT, RH
9	1				D2662-1	SADDLE, AFT IN, LH
9		1			D2662-2	SADDLE, AFT IN, RH
10	8	8			AN3-41A	BOLT
11	16	16			D2652	BUSHING
12A	8	8			MS21042-3	NUT (OR MS21042L3)
12B	8	8			AN960JD10	WASHER
13	4	4			AN5-7A	BOLT
14	4	4			AN5-7A	BOLT
15	8	8			AN960JD516	WASHER
16	12	12			AN4-6A	BOLT
17	24	24			AN960JD416	WASHER
18	12	12			MS21042-4	NUT (OR MS21042L4)
20A				1	D3805-041	FWD WEARPLATE ASSY
21A				1	D3807-1	* GASKET (3)
22A				1	D3805-045	AFT WEARPLATE ASSY
23A				1	D3807-5	* GASKET (4)
26A				7	AN3-37A	BOLT
26B				7	AN960JD10	WASHER
26C				7	MS21042-3	NUT (OR MS21042L3)
26D				14	D3873-1	BUSHING
28	2	2			AN6-44A	BOLT
29A	2	2			MS21042-6	NUT (OR MS21042L6)
29B	4	4			AN960JD616	WASHER
34	1	1			AN4C5A	BOLT
35	1	1			AN960C416	WASHER
36	1	1			D3413-1	RING
37	10	10			D2712	SET SCREW
38	2	2			D2884	SPACER
39	2	2			D2885	SPACER

- NOTES: (1) DENOTES THAT PART IS INCLUDED WITH D3804-041 ASSEMBLY ABOVE  
 (2) NOT INSTALLED AS PART OF SKIDTUBE. USED TO MODIFY OEM GROUND HANDLING WHEELS  
 (3) DENOTES THAT PART IS INCLUDED WITH D3805-041 ASSEMBLY ABOVE  
 (4) DENOTES THAT PART IS INCLUDED WITH D3805-045 ASSEMBLY ABOVE

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MFG. APPR.	N/A	DSI 9420	SHEET 4 OF 6
APPROVED	<i>10</i>	TITLE	SCALE
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## 8.0 206A/B HIGH GEAR SKIDTUBES PARTS LIST

Item	Qty -215	Qty -216	Qty -217	Qty -218	Qty -247	Qty -249	Part Number	Description
	X						D206-642-215	SKIDTUBE INSTALLATION, LH
		X					D206-642-216	SKIDTUBE INSTALLATION, RH
			X				D206-642-217	SKIDTUBE INSTALLATION, THRU BOLT, LH
				X			D206-642-218	SKIDTUBE INSTALLATION, THRU BOLT, RH
	1	1	1	1	X		D206-642-247	SKIDTUBE
					1	X	D206-642-249	RUN-ON LANDING WEARPLATE KIT
	1	1	1	1			D206-651-041	* 206 GHW ADAPTER <sup>(3)</sup>
1					1		D3804-043	SKIDTUBE ASSEMBLY
2A					8		D2651-1	* PLUG <sup>(1)</sup>
2B					8		D2651-3	* O-RING <sup>(1)</sup>
3					1		D2646	* AFT CAP <sup>(1)</sup>
4					2		MS27039-1-08	* SCREW <sup>(1)</sup>
5					2		AN960JD10L	* WASHER <sup>(1)</sup>
6	1		1				D2665-1	SADDLE, FWD OUT, LH
6		1		1			D2665-2	SADDLE, FWD OUT, RH
7	1		1				D2666-1	SADDLE, FWD IN, LH
7		1		1			D2666-2	SADDLE, FWD IN, RH
8	1						D2665-1	SADDLE, AFT OUT, LH
8		1					D2665-2	SADDLE, AFT OUT, RH
8			1				D2667-1	SADDLE, AFT OUT, LH
8				1			D2667-2	SADDLE, AFT OUT, RH
9	1						D2666-1	SADDLE, AFT IN, LH
9		1					D2666-2	SADDLE, AFT IN, RH
9			1				D2668-1	SADDLE, AFT IN, LH
9				1			D2668-2	SADDLE, AFT IN, RH
10	8	8	8	8			AN3-41A	BOLT
11	16	16	16	16			D2652	BUSHING
12A	8	8	8	8			MS21042-3	NUT (OR MS21042L3)
12B	8	8	8	8			AN960JD10	WASHER
13	4	4	4	4			AN5-7A	BOLT
14	4	4	4	4			AN5-11A	BOLT
14A			2	2			AN5-32A	* BOLT <sup>(2)</sup>
14B			2	2			MS21042-5	* NUT (OR MS21042L5) <sup>(2)</sup>
15	8	8	8	8			AN960JD516	WASHER
16	12	12	12	12			AN4-6A	BOLT
17	24	24	24	24			AN960JD416	WASHER
18	12	12	12	12			MS21042-4	NUT (OR MS21042L4)
20A						1	D3805-043	FWD WEARPLATE ASSY
21A						1	D3807-3	* GASKET <sup>(3)</sup>
22A						1	D3805-047	AFT WEARPLATE ASSY
22B						1	D3807-7	* GASKET <sup>(4)</sup>
26A						7	AN3-37A	BOLT
26B						7	AN960JD10	WASHER
26C						7	MS21042-3	NUT (OR MS21042L3)
26D						14	D3873-1	BUSHING
28	2	2	2	2			AN6-44A	BOLT
29A	2	2	2	2			MS21042-6	NUT (OR MS21042L6)
29B	4	4	4	4			AN960JD616	WASHER
34	1	1	1	1			AN4C5A	BOLT
35	1	1	1	1			AN960C416	WASHER
36	1	1	1	1			D3413-1	RING
37	10	10	5	5			D2712	SET SCREW
38	2	2	2	2			D2884	SADDLE SPACER
39	2	2	2	2			D2885	SADDLE SPACER

NOTES: <sup>(1)</sup> DENOTES THAT PART IS INCLUDED WITH D3804-043 ASSEMBLY ABOVE

<sup>(2)</sup> NOT INSTALLED AS PART OF SKIDTUBE. USED TO MODIFY OEM GROUND HANDLING WHEELS

<sup>(3)</sup> DENOTES THAT PART IS INCLUDED WITH D3805-043 ASSEMBLY ABOVE

<sup>(4)</sup> DENOTES THAT PART IS INCLUDED WITH D3805-047 ASSEMBLY ABOVE

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MFG. APPR.	N/A	DSI 9420	SHEET 5 OF 6
APPROVED	97	TITLE	SCALE
DE APPR.	97	SKIDTUBE INSTALLATION	NTS
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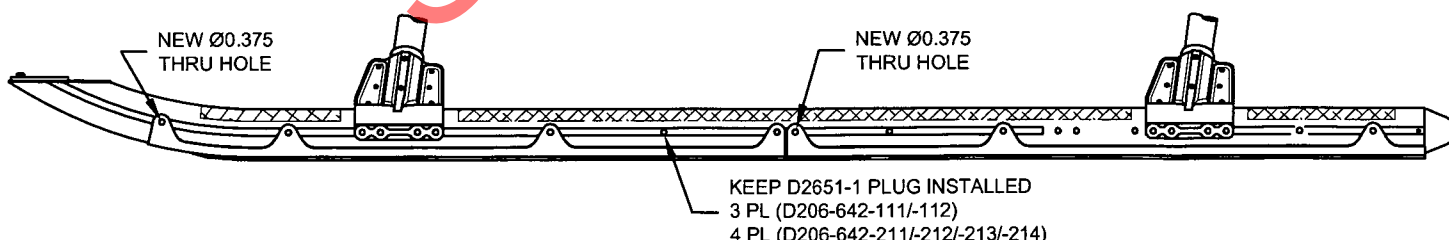
## 9.0 DSI 9420-011/-013 RUN-ON LANDING WEARPLATE UPGRADE KIT INSTALLATION

- 9.0.1 Remove the D206-642-111/-112/-211/-212/-213/-214 Skidtube per Section 32.1 of ICA-D206-642 Rev. 1 or earlier. Remove existing wearplates. Inspect the bottom of the tube for damage and touch up finish per Section 5.2.11 of ICA-D206-642 Rev. 1 or earlier. Plug existing wearplate inserts using Sikaflex-241/-291 or Proseal 890.
- 9.0.2 Remove qty(10) D2651-1 Plugs where the AN3 Bolts will be inserted to install the run-on landing wearplate assemblies. Refer to Figure 2.
- 9.0.3 Locate and temporarily install the Wearplate Assemblies per Figure 1. On both sides of the skidtube, transfer drill qty(2) Ø0.375" holes from the Wearplate Assembly to the Skidtubes as shown in Figure 2. Countersink the holes on both sides to Ø0.450" X 45°. Deburr.
- 9.0.4 Install D2649 Spacer per Sections A-A or B-B using Magnobond 6398. Grind flush as required. Allow Magnobond to cure per manufacturer's instructions.
- 9.0.5 Install the D3805-XXX Wearplate Assemblies using the qty(7) AN3-37A bolts and associated fasteners, as shown in Figure 1 of this service instruction. Torque fasteners to 15-25 in-lb (1.7-2.8 N-m).
- 9.0.6 Reinstall the Skidtube on the aircraft per Section 32.2 of ICA-D206-642 Rev.1 or earlier.
- 9.0.7 Update weight and balance information per Section 6.0 of this service instruction. Customers upgrading D206-642-111/-112 Skidtubes should adopt Weight & Balance of D206-642-113/-114 Skidtubes and customers upgrading D206-642-211/-212/-213/-214 Skidtubes should adopt Weight & Balance of D206-642-215/-216/-217/-218 Skidtubes.

## 10.0 DSI 9420-011/-013 PARTS LIST

Qty -011	Qty -013	Part Number	Description
X		DSI 9420-011	RUN-ON LANDING WEARPLATE UPGRADE KIT, LOW GEAR
	X	DSI 9420-013	RUN-ON LANDING WEARPLATE UPGRADE KIT, HIGH GEAR
2	2	D2649	SPACER
1		D3805-041	FWD WEARPLATE ASSY
1		D3807-1	* GASKET (1)
	1	D3805-043	FWD WEARPLATE ASSY
	1	D3807-3	* GASKET (2)
1		D3805-045	AFT WEARPLATE ASSY
1		D3807-5	* GASKET (3)
	1	D3805-047	AFT WEARPLATE ASSY
	1	D3807-7	* GASKET (4)
14	14	D3873-1	BUSHING
7	7	AN3-37A	BOLT
7	7	AN960JD10	WASHER
7	7	MS21042-3	NUT (OR MS21042L3)

NOTES: (1) DENOTES THAT PART IS INCLUDED WITH D3805-041 ASSEMBLY ABOVE  
(2) DENOTES THAT PART IS INCLUDED WITH D3805-043 ASSEMBLY ABOVE  
(3) DENOTES THAT PART IS INCLUDED WITH D3805-045 ASSEMBLY ABOVE  
(4) DENOTES THAT PART IS INCLUDED WITH D3805-047 ASSEMBLY ABOVE



**FIGURE 2: D206-642-111/-112/-211/-212/-213/-214 SKIDTUBE MOD**  
(D206-642-111/-112 SHOWN - D206-642-211/-212/-213/-214 SIMILAR)

DESIGN	92	<b>DART AEROSPACE USA, INC</b>	
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MFG. APPR.	N/A	DSI 9420	SHEET 6 OF 6
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